



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,158	08/25/2003	Kenneth MC Cheung	UHK-118XT	3550

23557 7590 10/06/2009
SALIWANCHIK LLOYD & SALIWANCHIK
A PROFESSIONAL ASSOCIATION
PO Box 142950
GAINESVILLE, FL 32614

EXAMINER

BECCIA, CHRISTOPHER J

ART UNIT	PAPER NUMBER
----------	--------------

3775

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

10/06/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

euspto@slspatents.com

Office Action Summary	Application No. 10/648,158	Applicant(s) CHEUNG ET AL.	
	Examiner CHRISTOPHER BECCIA	Art Unit 3775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-22, 28, 29 and 32-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 20-22, 28, 29 and 32-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Application/Control Number: 10/648,158

Page 2

Art Unit: 3775

DETAILED ACTION

Response to Arguments

1. Examiner acknowledges that Applicant has amended claims to specify that the transition temperature is within the range of human body temperature. 35 USC § 112 first paragraph rejection has been withdrawn.
2. Examiner acknowledges that Applicant has amended claims to specify that the transition temperature refers to Af. 35 USC § 112 second paragraph rejection has been withdrawn.
3. Applicant argues that *Drewry* does not teach 'wherein the spinal deformity is a deformity of scoliosis, kyphosis or lordosis.' Examiner argues that *Drewry* discloses providing corrective forces on the spine. Degenerative diseases, fractures, and other physical trauma, all disclosed as intended uses by *Drewry*, all can vary the natural curvature of the spine. Depending on the location of the injury, the invention of *Drewry* can be implemented to restore a natural lordosis or kyphosis to the spine.

Applicant argues that *Drewry*'s mentions of 'stabilizing' the spine teach away from correcting spinal deformities such as scoliosis, kyphosis or lordosis. Examiner respectfully disagrees. The Applicant's specification refers to a device capable of providing a constant and controllable correction force, limiting the supporting member from movement, and providing an anchor for mounting the supporting member to the deformed spine portion. Examiner does not believe that these statements teach away from 'stabilizing' the spine, and distinguishable patentable subject matter over *Drewry*.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-22, 28, 29 and 32-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,783,527 to *Drewry et al.*

As to **Claims 20-22, 28, 29 and 32-49**, *Drewry* discloses a method for correcting spinal deformities comprising: providing a constant (and controllable dependent upon the surgeon's original tension/deformation of the superelastic material) correction force through the use of tethers (80) made of superelastic Nitinol (Column 3, Lines 60-65) which generates the correction force at body temperature; wherein the correction force is constant or substantially constant and controllable during spinal deformity correction (Column 6, lines 42-63) and wherein the spinal deformity is a deformity of scoliosis, kyphosis or lordosis (Abstract, Col. 3, Lines 4—55); the forces activated during surgery (inherent due to the material being tensioned - See Column 4, Lines 1-2 - to cause an elastic response) and are adjusted/set by tensioning the tethers (80) by the surgeon. The tethers (80) are anchored by elements (30 and 50) that are formed of Nitinol (Column 4, Line 66 through Column 5, Line 6) which limit rotational movement of the tether. The overall device can be placed anteriorly or posteriorly (Column 3, Lines 48-55). The device is deformed to conform to the spinal deformities (inherent due to it being tensioned and anchored to the vertebrae).

Drewry fails to disclose that the Nitinol in the superelastic tether (80) has a transition temperature within the range of the patient's/recipient's body temperature. As evidenced by *Rahman* (Patents on Superelastic Shape Memory Alloy, 2008), a stress-induced phase transformation from austenite to martensite is required for superelasticity to exist. Therefore, any temperature greater than A_s would contain an austenitic crystal structure (with anything greater than A_f being all austenite) to be deformed into martensite to yield superelastic properties. It would have been an obvious to one having ordinary skill in the art at the time the invention was made to select a transition temperature to be within a patient's/recipient's body temperature range, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272,205 USPQ 215 (CCPA 1980).

Furthermore, the manner in which a device is intended to be employed does not differentiate the claimed apparatus from prior art apparatus satisfying the claimed structural limitations. As to wherein the spinal deformity is a deformity of scoliosis, kyphosis or lordosis, *Drewry* discloses providing corrective forces on the spine. Degenerative diseases, fractures, and other physical trauma, all disclosed as intended uses by *Drewry*, all can vary the natural curvature of the spine. Depending on the location of the injury, the invention of *Drewry* is implemented to restore a natural lordosis or kyphosis to the spine. See *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER BECCIA whose telephone number is (571)270-7391. The examiner can normally be reached on M-F 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Barrett can be reached on 571-272-4746. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTOPHER BECCIA/
Examiner, Art Unit 3775

/Thomas C. Barrett/
Supervisory Patent Examiner, Art
Unit 3775